

116TH CONGRESS  
2D SESSION

# S. 4985

To establish forestry policies that facilitate reforestation, conservation, international cooperation, and other ecologically sound management practices that reduce atmospheric carbon, to support United States efforts in partnership with the One Trillion Trees Initiative, to encourage the sustainable management, restoration, and conservation of global forests, grasslands, wetlands, and coastal habitats, and for other purposes.

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IN THE SENATE OF THE UNITED STATES

DECEMBER 9, 2020

Mr. BRAUN (for himself, Mr. COONS, Mr. YOUNG, and Mr. KING) introduced the following bill; which was read twice and referred to the Committee on Agriculture, Nutrition, and Forestry

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## A BILL

To establish forestry policies that facilitate reforestation, conservation, international cooperation, and other ecologically sound management practices that reduce atmospheric carbon, to support United States efforts in partnership with the One Trillion Trees Initiative, to encourage the sustainable management, restoration, and conservation of global forests, grasslands, wetlands, and coastal habitats, and for other purposes.

1       *Be it enacted by the Senate and House of Representa-*  
2       *tives of the United States of America in Congress assembled,*

**1 SECTION 1. SHORT TITLE; TABLE OF CONTENTS.**

2       (a) SHORT TITLE.—This Act may be cited as the  
 3     “Trillion Trees and Natural Carbon Storage Act”.

4       (b) TABLE OF CONTENTS.—The table of contents for  
 5 this Act is as follows:

See. 1. Short title; table of contents.  
 Sec. 2. Sense of Congress.  
 Sec. 3. Definitions.

**TITLE I—CARBON SEQUESTRATION THROUGH FOREST  
 CONSERVATION AND LAND MANAGEMENT ACTIVITIES**

Sec. 101. Domestic forest carbon stock objectives.  
 Sec. 102. Renewable resource assessment and survey update.  
 Sec. 103. Forest nursery revival program.  
 Sec. 104. Carbon sequestration through wetland and grassland.  
 Sec. 105. Carbon sequestration through the healthy forest reserve program.  
 Sec. 106. National Forest Foundation activities.  
 Sec. 107. Carbon sequestration on State and private land.  
 Sec. 108. Carbon sequestration research and monitoring programs.

**TITLE II—MARKET INCENTIVES FOR CARBON SEQUESTRATION**

Sec. 201. Clarification of research and development program for cellulosic biochemical and bioplastics.  
 Sec. 202. Rural Forest Market Investment Program.

**TITLE III—ENGAGING AMERICA’S ALLIES IN CONSERVATION AND  
 STRONGER LAND MANAGEMENT**

Sec. 301. Statement of policy.  
 Sec. 302. International support for conservation.  
 Sec. 303. Establishment of foundation.  
 Sec. 304. International sustainable land-use management plans.  
 Sec. 305. Blue carbon monitoring.  
 Sec. 306. Report to Congress.  
 Sec. 307. International forestry cooperation.  
 Sec. 308. Modifications to authorities relating to tropical forests.

**6 SEC. 2. SENSE OF CONGRESS.**

7       It is the sense of Congress that—  
 8           (1) forests and other ecosystems, including  
 9     grasslands and coastal wetlands, sequester and store  
 10    atmospheric carbon on climatologically relevant  
 11    timescales;

1                         (2) conserving, protecting, and restoring forest,  
2                         grassland, and wetland ecosystems globally would se-  
3                         quester a substantial amount of atmospheric carbon  
4                         and constitute a pragmatic step towards addressing  
5                         global carbon emissions and the degradation of bio-  
6                         diversity;

7                         (3) blue carbon habitat can also store a sub-  
8                         stantial amount of atmospheric carbon and provide  
9                         numerous other environmental, cultural, and eco-  
10                         nomic benefits;

11                         (4) as methods to address the changing climate,  
12                         restore ecosystems, and benefit human health, the  
13                         United States Government should take a leadership  
14                         role, both domestically and abroad, in—

15                         (A) ending deforestation;

16                         (B) supporting tree planting, natural re-  
17                         generation, forest landscape restoration, wildfire  
18                         risk reduction, and sustainable forest manage-  
19                         ment; and

20                         (C) conserving and restoring grasslands,  
21                         wetlands, blue carbon habitats, and other lands  
22                         and waters at scale; and

23                         (5) the 1t.org trillion trees platform established  
24                         by the World Economic Forum, the Global Environ-  
25                         ment Facility, and other domestic and international

1       efforts to conserve and expand healthy forest and  
2       tree cover, grasslands, wetlands, and blue carbon  
3       habitats globally should be supported.

4 **SEC. 3. DEFINITIONS.**

5       In this Act:

6              (1) ADMINISTRATOR.—The term “Administrator” means the Administrator of the United  
7       States Agency for International Development.

9              (2) BLUE CARBON HABITAT.—The term “blue  
10       carbon habitat” means a coastal habitat in the soils  
11       and vegetation of which carbon is stored, including  
12       a tidal wetland, a mangrove forest, a seagrass bed,  
13       a kelp forest, and other saltwater and estuarine  
14       coastal systems.

15              (3) CARBON SEQUESTRATION.—The term “carbon sequestration” means the processes of capturing  
16       and storing atmospheric carbon dioxide for a climatologically relevant period of time.

19              (4) FOREST LANDSCAPE RESTORATION.—The  
20       term “forest landscape restoration” means a process  
21       that aims to regain ecological functionality and en-  
22       hance human well-being in deforested or degraded  
23       landscapes.

24              (5) NATIONAL FOREST SYSTEM.—The term  
25       “National Forest System” has the meaning given

1       the term in section 11(a) of the Forest and Range-  
2       land Renewable Resources Planning Act of 1974 (16  
3       U.S.C. 1609(a)).

4                 (6) NATURALLY REGENERATE.—The term  
5        “naturally regenerate” means the regeneration of  
6       natural tree growth from—

7                         (A) available seed sources native to the  
8        specific forest area; or

9                         (B) any other natural process that does  
10       not primarily involve planting.

11                 (7) NET CARBON STOCK.—The term “net car-  
12       bon stock” means the absolute quantity of carbon  
13       held within a discrete portion of the biosphere (in-  
14       cluding carbon held within a discrete portion of  
15       aboveground forest biomass and forest soil) at a  
16       specified time.

17                 (8) SECRETARY.—The term “Secretary” means  
18       the Secretary of Agriculture.

19                 (9) SUSTAINABLE.—The term “sustainable”  
20       means the manner in which a land-use activity will,  
21       over the long-term—

22                         (A) satisfy the human and ecological needs  
23       associated with the use of land;

# **TITLE I—CARBON SEQUESTRATION THROUGH FOREST CONSERVATION AND LAND MANAGEMENT ACTIVITIES**

## **12 SEC. 101. DOMESTIC FOREST CARBON STOCK OBJECTIVES.**

13       (a) IN GENERAL.—Not later than 2 years after the  
14 date of enactment of this Act, the Secretary, in collabora-  
15 tion with the Administrator of the National Oceanic and  
16 Atmospheric Administration, shall establish—

1       that are owned or managed by a State or local gov-  
2       ernment, an Indian Tribe, or a private person.

3           (b) REQUIREMENTS.—Objectives established under  
4       subsection (a)—

5               (1) shall be based on the best available sci-  
6       entific and commercial information, including cur-  
7       rent and reference net carbon stock conditions for  
8       each ecosystem;

9               (2) shall be based on information relating to the  
10      maintenance or restoration of the ecological integrity  
11      of the ecosystems described in subsection (a), includ-  
12      ing maintaining or restoring ecologically appropriate  
13      forest, grassland, wetland, and blue carbon habitat  
14      structure, function, composition, and connectivity;

15               (3) shall consider naturally regenerated plant  
16      growth and planted growth;

17               (4) shall be established at levels that assist in  
18      achieving—

19                   (A) the optimally feasible and ecologically  
20      appropriate increase in the total net carbon  
21      stock that private domestic, State, and Tribal  
22      landowners and the Federal Government can  
23      achieve by January 1, 2030, and every 10 years  
24      thereafter through January 1, 2100; and

(B) the maximum practicable retention, recruitment, and restoration of critical habitats, as appropriate for the forest type, to the extent that the trees promote increased net carbon stock;

9                         (6) shall not negatively impact forest ecological  
10                         integrity, forest function, forest composition, forest  
11                         connectivity, and sustained yield and multiple uses;

18 (9) shall consider—

(A) the conservation of existing ecosystems  
that sequester carbon; and

23 (i) existing net carbon stocks in for-  
24 est, grassland, wetland, and coastal blue  
25 carbon habitat ecosystems; and

(ii) the carbon sequestration potential  
of the ecosystems described in clause (i).

**3 SEC. 102. RENEWABLE RESOURCE ASSESSMENT AND SUR-**

**4 VEY UPDATE.**

5       (a) RENEWABLE RESOURCE ASSESSMENT.—Section  
6 3 of the Forest and Rangeland Renewable Resources Plan-  
7 ning Act of 1974 (16 U.S.C. 1601) is amended—

8 (1) in subsection (a)—

(A) in each of paragraphs (4) and (5), by  
striking “and” at the end;

14 (C) by adding at the end the following:

15               “(7) an analysis of the total carbon storage ca-  
16               pacity of the National Forest System based on the  
17               lifecycle analysis established under section 102(b) of  
18               the Trillion Trees and Natural Carbon Storage Act;  
19               and

“(8) an analysis of the opportunities to enhance and optimize total net carbon stock (as defined in section 3 of that Act and taking into consideration the requirements described in section 101(b) of that Act) in the National Forest System.”; and

25 (2) in subsection (c)—

1                             (A) in paragraph (2), by striking “and” at  
2                             the end;

3                             (B) in paragraph (3), by striking the pe-  
4                             riod at the end and inserting “; and”; and

5                             (C) by adding at the end the following:

6                             “(4) the potential for increased utilization of  
7                             forest and wood products and byproducts that are  
8                             sustainable (as defined in section 3 of the Trillion  
9                             Trees and Natural Carbon Storage Act), including  
10                             recommendations to Congress for actions relating to  
11                             those products and byproducts that would lead to in-  
12                             creased net carbon sequestration (as defined in that  
13                             section).”.

14                             (b) LIFECYCLE ANALYSIS.—

15                             (1) LIFECYCLE STORAGE MODEL.—As a part of  
16                             the assessment required under section 3 of the For-  
17                             est and Rangeland Renewable Resources Planning  
18                             Act of 1974 (16 U.S.C. 1601), the Secretary shall  
19                             develop, using the best available science, including  
20                             data collected through the Forest Inventory and  
21                             Analysis program of the Forest Service, computa-  
22                             tional models to analyze the lifecycle forest and  
23                             grassland carbon sequestration potential associated  
24                             with the National Forest System.

1                         (2) CONSIDERATIONS.—In developing the model  
2                         under paragraph (1), the Secretary shall consider—

3                             (A) the net carbon stock in forests, grass-  
4                         lands, and wetlands, including in wood and for-  
5                         est soils;

6                             (B) the rate of carbon sequestration in  
7                         new trees and young forests;

8                             (C) the rate of carbon sequestration in old  
9                         trees and older forests;

10                             (D) the carbon impacts from tree mor-  
11                         tality;

12                             (E) the carbon impacts from logging, mill-  
13                         ing, and other forest management activities;

14                             (F) the carbon impacts from wildfire,  
15                         pests, and other natural disturbances;

16                             (G) the full lifecycle of carbon impacts  
17                         from the manufacture of wood-based products,  
18                         including storage benefits and substitution ben-  
19                         efits from the use of wood-based products as  
20                         compared to the use of more greenhouse-gas-in-  
21                         tensive materials, including impacts on forest  
22                         ecosystem net carbon stocks;

23                             (H) the net carbon impact of a cycle of—  
24                                 (i) harvest and regeneration; or  
25                                 (ii) harvest and replanting;

(I) the carbon impacts from ecologically sound active forest management;

(J) the carbon impacts from retention, forest conservation, improved management, and restoration of other landscapes, including grasslands, sagebrush, steppe, wetlands, abandoned mine land, brownfields, and other degraded lands that were historically forested; and

(K) other factors, as determined by the Secretary.

### (3) VALIDATION PROGRAM.—

(A) IN GENERAL.—The Secretary shall carry out a program for validation and independent testing of the lifecycle models developed under paragraph (1).

(B) REQUIREMENTS.—In carrying out the validation program under subparagraph (A), the Secretary shall—

- (i) regularly perform retrospective assessments comparing model predictions to field data on the carbon stored on the National Forest System; and

(ii) require third-party evaluation and comparison of lifecycle models developed under paragraph (1) against existing mod-

1           els, including enabling empirical testing of  
2           hypotheses regarding the net effects on  
3           land and atmospheric carbon stocks and  
4           other greenhouse gas impacts.

5           (4) REPORT.—Not later than 3 years after the  
6           date of enactment of this Act, the Secretary shall  
7           submit to the Committee on Agriculture of the  
8           House of Representatives and the Committee on Ag-  
9           riculture, Nutrition, and Forestry of the Senate a  
10          report on the findings of the analysis conducted  
11          using the lifecycle models developed under paragraph  
12          (1).

13 **SEC. 103. FOREST NURSERY REVIVAL PROGRAM.**

14          (a) IN GENERAL.—Section 2 of the Act of June 9,  
15 1930 (commonly known as the “Knutson-Vandenberg  
16 Act”) (16 U.S.C. 576a), is amended—

17           (1) by striking the section designation and all  
18           that follows through “the Secretary of Agriculture”  
19           and inserting the following:

20 **“SEC. 2. FOREST NURSERY REVIVAL PROGRAM.**

21          “(a) IN GENERAL.—The Secretary of Agriculture  
22 shall use amounts made available under subsection (b)”;  
23 and

24           (2) by adding at the end the following:

1        “(b) AUTHORIZATION OF APPROPRIATIONS.—There  
2 is authorized to be appropriated to the Secretary of Agri-  
3 culture to carry out subsection (a) \$10,000,000 for each  
4 of fiscal years 2021 through 2030.”.

5        (b) REPORT.—Not later than 3 years after the date  
6 of enactment of this Act, the Secretary shall submit to  
7 the Committee on Agriculture, Nutrition, and Forestry of  
8 the Senate and the Committee on Agriculture of the  
9 House of Representatives a report describing the short-  
10 comings of, and barriers to, reforestation activities under  
11 section 2 of the Act of June 9, 1930 (commonly known  
12 as the “Knutson-Vandenberg Act”) (16 U.S.C. 576a).

13 **SEC. 104. CARBON SEQUESTRATION THROUGH WETLAND  
14 AND GRASSLAND.**

15        (a) IN GENERAL.—The Administrator of the Na-  
16 tional Oceanic and Atmospheric Administration and the  
17 Secretary of the Interior, in consultation with the Sec-  
18 retary and the heads of other relevant agencies, are en-  
19 couraged to identify and pursue opportunities for the res-  
20 toration or conservation of grasslands, wetlands, and  
21 coastal blue carbon habitats of the United States that are  
22 owned or managed by the Federal Government, State or  
23 local governments, Indian Tribes, or private persons that  
24 will—

1                         (1) increase the net carbon stock of the United  
2                         States, allowing the United States to reach the ob-  
3                         jectives established under section 101(a); and

4                         (2) provide other environmental, cultural, and  
5                         economic benefits to the region in which the restora-  
6                         tion or conservation is carried out.

7                         (b) BLUE CARBON MONITORING.—In carrying out  
8                         subsection (a), the Administrator of the National Oceanic  
9                         and Atmospheric Administration, in collaboration with the  
10                         Secretary of the Interior and the heads of other relevant  
11                         agencies, shall monitor the net carbon stock in blue carbon  
12                         habitats.

13                         (c) GRASSLAND CARBON MONITORING.—In carrying  
14                         out subsection (a), the Secretary of the Interior, the Sec-  
15                         retary, and the heads of other relevant agencies shall col-  
16                         laborate to monitor the net carbon stock in grassland.

17                         **SEC. 105. CARBON SEQUESTRATION THROUGH THE**  
18                         **HEALTHY FOREST RESERVE PROGRAM.**

19                         (a) ESTABLISHMENT.—Section 501(a) of the Healthy  
20                         Forests Restoration Act of 2003 (16 U.S.C. 6571(a)) is  
21                         amended—

22                         (1) in paragraph (3), by striking “and” at the  
23                         end;

24                         (2) in paragraph (4), by striking the period at  
25                         the end and inserting “; and”; and

1                     (3) by adding at the end the following:

2                     “(5) to promote, in pursuit of the objectives for  
3                     increasing net carbon stock established under section  
4                     101(a) of the Trillion Trees and Natural Carbon  
5                     Storage Act—

6                     “(A) first in priority, the conservation and  
7                     management of existing forests; and

8                     “(B) second in priority, the planting or re-  
9                     generation of additional trees in an ecologically  
10                     appropriate manner.”.

11                 (b) ENROLLMENT PRIORITY.—Section 502(f) of the  
12 Healthy Forests Restoration Act of 2003 (16 U.S.C.  
13 6572) is amended by striking paragraph (1) and inserting  
14 the following:

15                 “(1) IN GENERAL.—The Secretary of Agri-  
16 culture shall give priority to the enrollment in the  
17 healthy forests reserve program of land that—

18                     “(A) provides the greatest conservation  
19                     benefit to—

20                     “(i) species listed as endangered or  
21                     threatened under section 4 of the Endan-  
22                     gered Species Act of 1973 (16 U.S.C.  
23                     1533); and

24                     “(ii) species that—

1                 “(I) are not listed as endangered  
2                 or threatened under section 4 of the  
3                 Endangered Species Act of 1973 (16  
4                 U.S.C. 1533); but

5                 “(II)(aa) are candidates for such  
6                 listing, State-listed species, or special  
7                 concern species; or

8                 “(bb) are deemed a species of  
9                 greatest conservation need under a  
10                 State wildlife action plan;

11                 “(B) promotes the restoration of marginal  
12                 farmland or degraded forestland into healthy  
13                 forest ecosystems; or

14                 “(C) promotes the continuation of an eco-  
15                 logically appropriate ecosystem.”.

16                 (c) RESTORATION PLANS.—Section 503(b) of the  
17                 Healthy Forests Restoration Act of 2003 (16 U.S.C.  
18                 6573(b)) is amended by striking paragraph (4) and insert-  
19                 ing the following:

20                 “(4) Practices, including reforestation and  
21                 other forestry practices, to increase net carbon stock  
22                 (as defined in section 3 of the Trillion Trees and  
23                 Natural Carbon Storage Act).”.

1 **SEC. 106. NATIONAL FOREST FOUNDATION ACTIVITIES.**

2       (a) PURPOSES OF FOUNDATION.—Section 402(b) of  
3 the National Forest Foundation Act (16 U.S.C. 583j(b))  
4 is amended—

5               (1) in paragraph (2), by striking “and” at the  
6 end;

7               (2) in paragraph (3), by striking the period at  
8 the end and inserting a semicolon; and

9               (3) by adding at the end the following:

10               “(4) encourage, accept, and administer private  
11 gifts of money and of real and personal property for  
12 the benefit of, or in connection with, the objectives  
13 for optimizing total domestic carbon stocks estab-  
14 lished under section 101(a) of the Trillion Trees and  
15 Natural Carbon Storage Act; and

16               “(5) carry out the Theodore Roosevelt Jr. Prize  
17 for Forest Restoration under section 410.”.

18       (b) THEODORE ROOSEVELT JR. PRIZE FOR FOREST  
19 RESTORATION.—The National Forest Foundation Act (16  
20 U.S.C. 583j et seq.) is amended—

21               (1) in section 405, by striking “410” both  
22 places it appears and inserting “411”;

23               (2) by redesignating section 410 as section 411;  
24 and

25               (3) by inserting after section 409 the following:

## 1 "SEC. 410. THEODORE ROOSEVELT JR. PRIZE FOR FOREST

2 **RESTORATION.**

3 "(a) DEFINITIONS.—In this section:

4 "(1) SECRETARY.—The term 'Secretary' means  
5 the Secretary of Agriculture.6 "(2) THEODORE ROOSEVELT JR. PRIZE.—The  
7 term 'Theodore Roosevelt Jr. Prize' means the  
8 Theodore Roosevelt Jr. Prize for Forest Restoration  
9 established under subsection (b).10 "(b) ESTABLISHMENT.—The Foundation shall, in  
11 consultation with the Secretary, establish a program to  
12 award an incentive prize, to be known as the 'Theodore  
13 Roosevelt Jr. Prize for Forest Restoration', to support do-  
14 mestic reforestation activities carried out by individuals,  
15 communities, nonprofit organizations, and corporations.16 "(c) ELIGIBLE RECIPIENTS.—The following entities  
17 are eligible to receive the Theodore Roosevelt Jr. Prize:

18 "(1) A State agency.

19 "(2) A nonprofit entity that the Secretary de-  
20 termines has a demonstrated expertise in tree plant-  
21 ing activity and reforestation.22 "(3) Other entities that the Secretary deter-  
23 mines to be appropriate, such as a local government  
24 or a private owner of land covered by a forest man-  
25 agement plan.

1       “(d) COORDINATION.—In carrying out this section,  
2 the Secretary may coordinate on an ongoing basis with  
3 appropriate Federal, State, Tribal, and local resource  
4 management departments, local nonprofit organizations,  
5 private landowners, and corporations—

6           “(1) to identify land suitable for reforestation;  
7           “(2) to encourage, accept, and administer pri-  
8 vate gifts of money, technical expertise, and real and  
9 personal property for the benefit of the program  
10 under this section; and  
11           “(3) to manage and maintain reforested land.”.

12 **SEC. 107. CARBON SEQUESTRATION ON STATE AND PRI-**  
13 **VATE LAND.**

14       (a) ADDING NET CARBON STOCK AS A PURPOSE.—  
15 Section 2(b) of the Cooperative Forestry Assistance Act  
16 of 1978 (16 U.S.C. 2101(b)) is amended—

17           (1) by redesignating paragraphs (6) through  
18 (10) as paragraphs (7) through (11), respectively;  
19 and

20           (2) by inserting after paragraph (5) the fol-  
21 lowing:

22           “(6) the encouragement of reforestation, con-  
23 servation, and related optimization of net carbon  
24 stock (as defined in section 3 of the Trillion Trees  
25 and Natural Carbon Storage Act and taking into

1 consideration the requirements described in section  
2 101(b) of that Act);”.

3 (b) SUPPORT FOR STATE ASSESSMENTS AND STRAT-  
4 EGIES FOR FOREST RESOURCES WHEN CONSIDERING  
5 CARBON EMISSIONS.—Section 2A(a)(1) of the Cooper-  
6 tive Forestry Assistance Act of 1978 (16 U.S.C.  
7 2101a(a)(1)) is amended—

8 (1) by redesignating subparagraphs (C) and  
9 (D) as subparagraphs (D) and (E), respectively; and  
10 (2) by inserting after subparagraph (B) the fol-  
11 lowing:

12 “(C)(i) the net carbon stock (as defined in  
13 section 3 of the Trillion Trees and Natural Car-  
14 bon Storage Act and taking into consideration  
15 the requirements described in section 101(b) of  
16 that Act) on State land and private land in the  
17 State; and

18 “(ii) opportunities to increase that net car-  
19 bon stock, taking into consideration the require-  
20 ments described in section 101(b) of that Act;”.

21 (c) CARBON STORAGE THROUGH THE FOREST STEW-  
22 ARDSHIP PROGRAM.—Section 5(d)(1) of the Cooperative  
23 Forestry Assistance Act of 1978 (16 U.S.C. 2103a(d)(1))  
24 is amended by inserting “carbon sequestration (as defined

1 in section 3 of the Trillion Trees and Natural Carbon  
2 Storage Act)," before "and the aesthetic".

3 (d) CARBON STORAGE THROUGH THE COMMUNITY  
4 FOREST AND OPEN SPACE CONSERVATION PROGRAM.—  
5 Section 7A(c)(1)(B)(ii) of the Cooperative Forestry As-  
6 sistance Act of 1978 (16 U.S.C. 2103d(c)(1)(B)(ii)) is  
7 amended by inserting ", net carbon stock (as defined in  
8 section 3 of the Trillion Trees and Natural Carbon Stor-  
9 age Act and taking into consideration the requirements  
10 described in section 101(b) of that Act)," before "and  
11 wildlife".

12 (e) CARBON STORAGE THROUGH THE PROMOTION  
13 OF FOREST HEALTH.—Section 8(a) of the Cooperative  
14 Forestry Assistance Act of 1978 (16 U.S.C. 2104(a)) is  
15 amended—

16 (1) by redesignating paragraphs (4) through  
17 (6) as paragraphs (5) through (7), respectively; and  
18 (2) by inserting after paragraph (3) the fol-  
19 lowing:

20 "(4) protect or enhance net carbon stock (as  
21 defined in section 3 of the Trillion Trees and Nat-  
22 ural Carbon Storage Act and taking into consider-  
23 ation the requirements described in section 101(b) of  
24 that Act) on healthy forestland;".

1       (f) CARBON STORAGE THROUGH URBAN AND COM-  
2 MUNITY FORESTRY.—Section 9(d)(3) of the Cooperative  
3 Forestry Assistance Act of 1978 (16 U.S.C. 2105(d)(3))  
4 is amended—

5           (1) in subparagraph (C), by striking “and” at  
6 the end;

7           (2) in subparagraph (D), by inserting “and” at  
8 the end; and

9           (3) by adding at the end the following:

10           “(E) identifying opportunities to increase  
11 carbon stored through tree planting and sci-  
12 entific urban forestry management;”.

13       (g) CARBON STORAGE THROUGH THE STATE AND  
14 PRIVATE FOREST LANDSCAPE-SCALE RESTORATION.—  
15 Section 13A of the Cooperative Forestry Assistance Act  
16 of 1978 (16 U.S.C. 2109a) is amended—

17           (1) in subsection (e)—

18           (A) in paragraph (6), by striking “and” at  
19 the end;

20           (B) by redesignating paragraph (7) as  
21 paragraph (8); and

22           (C) by inserting after paragraph (6) the  
23 following:

24           “(7) to improve the potential to increase the net  
25 carbon stock (as defined in section 3 of the Trillion

1       Trees and Natural Carbon Storage Act and taking  
2       into consideration the requirements described in sec-  
3       tion 101(b) of that Act) of forest ecosystems  
4       through methods that result in real, measurable, and  
5       verifiable changes in that net carbon stock; and”;  
6       and

7               (2) in subsection (l), by striking paragraph (3)  
8       and inserting the following:

9               “(3) AUTHORIZATION OF APPROPRIATIONS.—  
10       There is authorized to be appropriated to the Fund  
11       \$25,000,000 for the first full fiscal year after the  
12       date of enactment of the Trillion Trees and Natural  
13       Carbon Storage Act and each fiscal year thereafter  
14       through fiscal year 2025, to remain available until  
15       expended.”.

16 **SEC. 108. CARBON SEQUESTRATION RESEARCH AND MONI-  
17               TORING PROGRAMS.**

18       (a) IN GENERAL.—Section 3 of the Forest and  
19       Rangeland Renewable Resources Research Act of 1978  
20       (16 U.S.C. 1642) is amended—

21               (1) in subsection (a)—  
22                       (A) in the matter preceding paragraph (1),  
23                       in the second sentence, by striking “include,”  
24                       and all that follows through “subsection.” and

1           inserting “include the following 6 major areas  
2           of renewable resource research:”;

3                 (B) in paragraph (1), by inserting “further  
4                 expanding the understanding of wood product  
5                 carbon sequestration (as defined in section 3 of  
6                 the Trillion Trees and Natural Carbon Storage  
7                 Act), including by developing and improving  
8                 carbon accounting strategies for specific, eco-  
9                 logically sound forest management practices;”  
10                 before “and developing”; and

11                 (C) by adding at the end the following:

12                 “(6) Renewable resource assessment research  
13                 shall include, as appropriate, research activities re-  
14                 lating to the sequestration of carbon, including—

15                 “(A) accounting strategies for specific, eco-  
16                 logically sound forest management practices in  
17                 specific forest types;

18                 “(B) increased carbon storage through re-  
19                 forestation, natural regeneration (as defined in  
20                 section 3 of the Trillion Trees and Natural Car-  
21                 bon Storage Act) or conservation, and forest  
22                 and rangeland management; and

23                 “(C) the utilization of wood and other ma-  
24                 terials derived from forest and rangeland re-  
25                 newable resources to store carbon in building

1           materials and industrial or consumer prod-  
2           ucts.”;

3           (2) in subsection (c)—

4               (A) in paragraph (1)—

5                   (i) in the matter preceding subpara-  
6                   graph (A), by striking “United States”  
7                   and all that follows through “referred to”  
8                   and inserting “Chief of the Forest Service,  
9                   shall carry out a program (referred to in  
10                  this subsection”;

11                   (ii) in subparagraph (G), by striking  
12                  “and” at the end;

13                   (iii) in subparagraph (H), by striking  
14                  the period at the end and inserting a semi-  
15                  colon; and

16                   (iv) by adding at the end the fol-  
17                  lowing:

18                   “(I) accelerate and expand existing re-  
19                  search efforts to improve forest carbon meas-  
20                  urement and monitoring technologies—

21                   “(i) to better predict changes in forest  
22                  carbon due to a changing climate; and

23                   “(ii) to reduce costs of participation,  
24                  and increase participation, by private for-  
25                  est landowners in carbon markets; and

1                 “(J) conduct a study to monitor impacts  
2                 from carbon-enhancing activities.”; and

3                 (B) in paragraph (4)—

4                         (i) by striking subparagraphs (A) and  
5                         (C);

6                         (ii) by striking “the following re-  
7                 ports:” and all that follows through “shall  
8                 submit” in the matter preceding clause (i)  
9                 of subparagraph (B) and inserting “, not  
10                 later than January 15 of each year,”; and  
11                         (iii) by redesignating clauses (i)  
12                 through (iv) as subparagraphs (A) through  
13                 (D), respectively, and indenting appro-  
14                 priately; and

15                 (3) in subsection (d)(2), by adding at the end  
16                 the following:

17                 “(F) Carbon sequestration (as defined in  
18                 section 3 of the Trillion Trees and Natural Car-  
19                 bon Storage Act).”.

20                 (b) TECHNICAL AMENDMENT.—Section 2(c) of the  
21                 Forest and Rangeland Renewable Resources Research Act  
22                 of 1978 (16 U.S.C. 1641(c)) is amended by inserting “of  
23                 Agriculture (referred to in this Act as the ‘Secretary’)”  
24                 after “Secretary”.

## **TITLE II—MARKET INCENTIVES FOR CARBON SEQUESTRATION**

**3 SEC. 201. CLARIFICATION OF RESEARCH AND DEVELOP-**

**4 MENT PROGRAM FOR CELLULOSIC BIO-**

**5 CHEMICAL AND BIOPLASTICS.**

## 6 (a) DEFINITIONS.—In this section:

7                             (1) CELLULOSIC BIOCHEMICAL PRODUCT.—The  
8                             term “cellulosic biochemical product” means any  
9                             biochemical, including bioethanol and its derivatives,  
10                          that is derived from wood or plant cellulose fiber.

23       (b) AUTHORIZATION.—The Secretary shall conduct  
24 performance-driven research and development and provide  
25 for education and technical assistance for the purpose of

1 facilitating the use of cellulosic biochemical and bioplastics  
2 products in the United States.

3 (c) ACTIVITIES.—In carrying out subsection (b), the  
4 Secretary shall, after collaboration with the wood products  
5 and chemical industries, conservation organizations, and  
6 institutions of higher education—

7 (1) conduct research and development, and pro-  
8 vide for education and technical assistance, at the  
9 Forest Products Laboratory or through the State  
10 and Private Forestry deputy area that meets meas-  
11 urable performance goals for the achievement of the  
12 priorities described in paragraphs (1) through (4) of  
13 subsection (d); and

14 (2) make competitive grants to institutions of  
15 higher education for those institutions to conduct re-  
16 search and development, carry out educational pro-  
17 grams, and provide technical assistance.

18 (d) PRIORITIES.—In awarding grants under sub-  
19 section (c)(2), the Secretary shall give priority to applica-  
20 tions from institutions of higher education proposing  
21 projects—

22 (1) to address ways to improve the commer-  
23 cialization of cellulosic biochemical products and bio-  
24 degradable cellulosic bioplastics products that, based  
25 on the best available science and analyses conducted

1       using the lifecycle models developed under section  
2       102(b), will allow for an increase in net carbon  
3       stock;

4               (2) to develop advanced biofuels (as defined in  
5       section 211(o)(1) of the Clean Air Act (42 U.S.C.  
6       7545(o)(1))) that—

7                       (A) are cellulosic biofuels suitable for use  
8       in aviation, shipping, and heavy-duty vehicles;  
9       and

10                      (B) based on the best available science and  
11       analyses conducted using the lifecycle models  
12       developed under section 102(b), will allow for  
13       an increase in net carbon stock;

14                      (3) for the conduct of applied research, includ-  
15       ing projects designed to bring products from bench-  
16       top to production scale; or

17                      (4) to address one or more other research areas  
18       identified by the Secretary, in consultation with con-  
19       servation organizations, institutions of higher edu-  
20       cation, and the wood products industry.

21       (e) **TIMEFRAME.**—To the maximum extent prac-  
22       ticable, the measurable performance goals for the research  
23       and development, education, and technical assistance  
24       under subsection (b) shall be achievable within 5 years.

1     **SEC. 202. RURAL FOREST MARKET INVESTMENT PROGRAM.**

2         (a) DEFINITION OF RURAL.—In this section, the  
3     term “rural” has the meaning given the term in section  
4     343 of the Consolidated Farm and Rural Development Act  
5     (7 U.S.C. 1991).

6         (b) ESTABLISHMENT OF PROGRAM.—

7             (1) IN GENERAL.—The Secretary shall establish  
8     a program, to be known as the “Rural Forest Mar-  
9     ket Investment Program”, to guarantee an environ-  
10    mental impact bond, loan, or other investment vehi-  
11    cle, as determined by the Secretary, issued for the  
12    sole purpose of financing eligible projects described  
13    in subsection (c), to enable rural private forest land-  
14    owners to participate in an innovative market for  
15    forest carbon or other products.

16             (2) CONSIDERATION.—In establishing the pro-  
17    gram under paragraph (1), the Secretary may con-  
18    sider ways to ensure that the program minimizes, to  
19    the extent practicable, disruptions to traditional for-  
20    est products markets.

21             (c) ELIGIBLE PROJECTS.—An eligible project re-  
22    ferred to in subsection (b)(1) is a project developed by pri-  
23    vate entity, or a publicly supported, charitable nonprofit  
24    organization, engaged in the aggregation of sustainable  
25    forestry practices implemented by rural private forest  
26    landowners to facilitate the sale of credits in the voluntary

1 carbon market or other recognized environmental market,  
2 using a methodology approved by a credible, third-party  
3 entity, as determined by the Secretary.

4 (d) REQUIREMENTS.—A project described in sub-  
5 section (c) that includes the practice of tree planting may  
6 only be carried out, as determined by the Secretary—

7 (1) on land that was historically forested;  
8 (2) using tree species that are native to the re-  
9 gion and at ecologically appropriate densities; and  
10 (3) in a manner that does not create other neg-  
11 ative impacts to biodiversity or the environment.

12 (e) GUARANTEE AMOUNT.—The Secretary may guar-  
13 antee not more than \$150,000,000 with respect to each  
14 bond, loan, or other investment vehicle under subsection  
15 (b)(1).

16 (f) REGULATIONS.—Not later than 30 days after the  
17 date of enactment of this Act, the Secretary shall issue  
18 regulations to implement the program established under  
19 subsection (b)(1).

20 (g) TERMINATION OF AUTHORITY.—The authority  
21 provided by this section terminates on September 30,  
22 2023.

1   **TITLE III—ENGAGING AMER-**  
2   **ICA’S ALLIES IN CONSERVA-**  
3   **TION AND STRONGER LAND**  
4   **MANAGEMENT**

5   **SEC. 301. STATEMENT OF POLICY.**

6       It shall be the policy of the United States to—

7           (1) lead the world in creating incentives and in-  
8           vestments to protect intact forests, reduce deforest-  
9           ation and support tree planting and forest landscape  
10          restoration, conservation, and sustainable manage-  
11          ment in support of the goal to plant and conserve  
12          one trillion trees globally;

13           (2) support carbon sequestration through sus-  
14          tainable management and restoration of coastal and  
15          inland aquatic ecosystems, including wetlands and  
16          blue carbon habitats; and

17           (3) utilize the vast natural assets and technical  
18          expertise of the United States to assist with sustain-  
19          able management and utilization, conservation, and  
20          restoration of forests, grasslands, wetlands, blue car-  
21          bon habitats, and agricultural lands for sequestering  
22          carbon globally.

23   **SEC. 302. INTERNATIONAL SUPPORT FOR CONSERVATION.**

24       (a) IN GENERAL.—The Secretary of State (referred  
25          to in this title as the “Secretary”), in coordination with

1 the Administrator, the Secretary of Agriculture, the Ad-  
2 ministrator of the National Oceanic and Atmospheric Ad-  
3 ministration, the Director of the United States Fish and  
4 Wildlife Service, the Secretary of the Treasury, and the  
5 heads of other relevant agencies and international organi-  
6 zations, shall prioritize programs to support forest land-  
7 scape restoration, end deforestation, and conserve and re-  
8 store grasslands, wetlands, and blue carbon habitats at  
9 landscape scale, including incorporating these activities  
10 into other programs or forms of assistance.

11 (b) PRIORITIZATION AND TYPES OF ASSISTANCE.—  
12 In providing the support outlined in subsection (a), the  
13 Secretary, in coordination with the Administrator, the  
14 Secretary of Agriculture, the Administrator of the Na-  
15 tional Oceanic and Atmospheric Administration, and the  
16 Director of the United States Fish and Wildlife Service,  
17 shall—

18 (1) prioritize partnerships with developing coun-  
19 tries and regions that have experienced significant  
20 levels of deforestation, grassland conversion, wetland  
21 loss, or blue carbon habitat degradation or whose  
22 biodiversity, local economy, and stability has been or  
23 could be significantly impacted by loss of forest and  
24 tree cover, grasslands, wetlands, or blue carbon habi-  
25 tat;

1                         (2) prioritize partnerships that have been deter-  
2                         mined by agencies and partners with relevant exper-  
3                         tise to sequester or have the potential to sequester  
4                         significant amounts of atmospheric carbon and that  
5                         will provide other benefits to the region, as deter-  
6                         mined by the Secretary;

7                         (3) encourage countries receiving relevant aid,  
8                         as determined by the Secretary, to report trans-  
9                         parently information about this aid, including local  
10                         ownership and benefit sharing of programs;

11                         (4) encourage countries receiving relevant aid,  
12                         as determined by the Secretary, to adopt legislation  
13                         or other measures domestically to protect, restore,  
14                         and sustainably manage forests (both existing and  
15                         newly planted), grasslands, wetlands, blue carbon  
16                         habitats, and other ecologically important lands and  
17                         waters; and

18                         (5) take a leadership role in ending deforest-  
19                         ation and habitat conversion and encouraging the  
20                         sustainable management, conservation, and restora-  
21                         tion of forests, grasslands, wetlands, blue carbon  
22                         habitats, and other lands and waters at landscape  
23                         scale.

24                         (c) COORDINATION.—In carrying out the programs  
25                         authorized by this section, the Secretary and the Adminis-

1 trator shall, to the maximum extent practicable, make use  
2 of public-private partnerships to facilitate engagement by  
3 nonprofit organizations and industry partners.

4 **SEC. 303. ESTABLISHMENT OF FOUNDATION.**

5 (a) ESTABLISHMENT OF FOUNDATION.—The Sec-  
6 retary may enter into an agreement, or expand on existing  
7 partnerships, with a nonprofit organization to establish an  
8 “International Forest Foundation” (in this section re-  
9 ferred to as the “Foundation”), which shall not be an  
10 agency or instrumentality of the United States Govern-  
11 ment.

12 (b) PURPOSES OF FOUNDATION.—The purposes of  
13 the Foundation shall be to—

14 (1) encourage, accept, and administer private  
15 gifts of money and of real and personal property for  
16 the benefit of, or in connection with, the activities  
17 and services carried out by the United States to sup-  
18 port forest landscape restoration, end deforestation,  
19 and conserve and restore grasslands, wetlands, and  
20 blue carbon habitats around the world;

21 (2) use private funds to support, undertake,  
22 and conduct activities that further the goals set  
23 forth in section 301; and

24 (3) undertake, conduct, and encourage edu-  
25 cational, technical, and other assistance, and other

1 activities, that support international goals to in-  
2 crease global carbon sequestration and ecosystem  
3 health through the conservation and restoration of  
4 healthy forests, grasslands, wetlands, blue carbon  
5 habitats, and sustainably managed agricultural land.

6 (c) TRANSFER OF FUNDS; LIABILITY.—

7 (1) TRANSFER OF FUNDS.—The Secretary may  
8 authorize, pursuant to an agreement entered into in  
9 accordance with section 302(c), the transfer of funds  
10 of the United States to a nonprofit organization for  
11 the purpose of offsetting any administrative costs of  
12 the Foundation.

13 (2) LIABILITY.—The United States shall not be  
14 liable for any debts, defaults, acts, or omissions of  
15 the Foundation. The full faith and credit of the  
16 United States shall not extend to any obligations of  
17 the Foundation.

18 **SEC. 304. INTERNATIONAL SUSTAINABLE LAND-USE MAN-**

19 **AGEMENT PLANS.**

20 (a) IN GENERAL.—The Secretary, in coordination  
21 with the Administrator, the Secretary of Agriculture, the  
22 heads of other relevant Federal agencies, and international  
23 organizations, shall encourage countries receiving funding  
24 or other forms of assistance related to agriculture that is  
25 funded or partially funded by the United States to

1 produce, make publicly available, and adhere to detailed  
2 land-use management plans that identify and preserve  
3 areas important to ecosystem health and carbon seque-  
4 stration and prioritize landscape restoration.

5 (b) LAND-USE MANAGEMENT PLAN CRITERIA.—The  
6 Secretary shall work with the Administrator, the Secretary  
7 of Agriculture, the heads of other relevant Federal agen-  
8 cies, international and nongovernmental organizations,  
9 and other relevant experts to work with recipient countries  
10 to develop and make publicly available, not later than one  
11 year after the date of the enactment of this Act, science-  
12 based criteria for land-use management plans that support  
13 conservation of critical ecosystems, which may take mate-  
14 rial or ideas from existing land-use management criteria.

15 The criteria shall prioritize—

16 (1) identifying and preserving areas important  
17 to ecosystem health and carbon sequestration;

18 (2) conserving critical habitat and other signifi-  
19 cant areas;

20 (3) prioritizing conservation and preservation  
21 where possible;

22 (4) restoring forests, grasslands, wetlands, blue  
23 carbon habitats, and other lands and waters impor-  
24 tant for carbon sequestration and ecosystem health;  
25 and

1                         (5) stakeholder engagement with local commu-  
2                         nities, including indigenous communities and  
3                         marginalized groups, including women.

4                         (c) IDENTIFICATION OF COUNTRIES.—The Secretary  
5                         shall work with the Administrator, the Secretary of Agri-  
6                         culture, the heads of other relevant United States agen-  
7                         cies, international organizations, and other relevant ex-  
8                         perts to identify and publish on a preexisting website the  
9                         countries receiving direct funding or benefits derived from  
10                         United States international aid related to agricultural de-  
11                         velopment, agricultural education, or agricultural trade.

12                         (d) ENCOURAGING USE OF LAND-USE MANAGEMENT  
13                         PLANS.—The Secretary, in coordination with the Admin-  
14                         istrator, the Secretary of Agriculture, and the heads of  
15                         other relevant agencies shall—

16                         (1) encourage identified countries to develop  
17                         and publish on a preexisting website land-use man-  
18                         agement plans, or to improve existing land-use man-  
19                         agement plans, following criteria that include clear  
20                         annual objectives for achieving the priorities set  
21                         forth in subsection (b);

22                         (2) consider the progress that countries have  
23                         made in developing conservation and land-use man-  
24                         agement plans and the progress these countries have

1       made in adhering to these plans when determining  
2       future aid related to agricultural development;

3                 (3) encourage international organizations that  
4       the United States supports and other governments  
5       with which it cooperates to support land-use man-  
6       agement plans and planning; and

7                 (4) integrate United States financial assistance  
8       and support for such plans with the assistance of  
9       others to the extent doing so advances their effec-  
10      tiveness.

11 **SEC. 305. BLUE CARBON MONITORING.**

12       The Administrator of the National Oceanic and At-  
13      mospheric Administration shall—

14                 (1) collaborate with and provide technical as-  
15       sistance to the Secretary and the Administrator in  
16       order to implement best practices for monitoring  
17       blue carbon inventory in programs and projects es-  
18       tablished under this title; and

19                 (2) work in collaboration with the Smithsonian  
20       Environmental Research Center to develop a global  
21       blue carbon database and ensure data collection and  
22       reporting are consistent with the Center's Coastal  
23       Carbon Data Clearinghouse.

1   **SEC. 306. REPORT TO CONGRESS.**

2       Not later than 2 years after the date of the enact-  
3   ment of this Act, and annually thereafter, the Secretary,  
4   in consultation with the Administrator, the Secretary of  
5   Agriculture, the Administrator of the National Oceanic  
6   and Atmospheric Administration, the Director of the  
7   United States Fish and Wildlife Service, and the heads  
8   of other relevant United States agencies, shall submit a  
9   report to Congress that—

10           (1) outlines funding, activities, and other sup-  
11   port provided to advance the priorities outlined in  
12   sections 302, 303, 304, and 305 on a country-by-  
13   country basis, including work to develop land-use  
14   management plan criteria and efforts to encourage  
15   identified countries to develop and adhere to land-  
16   use management plans consistent with the developed  
17   criteria; and

18           (2) makes use of modern satellite imagery tech-  
19   niques to monitor grassland, forest, and tree canopy  
20   cover and track the effectiveness of the programs of  
21   the United States Government and its partners.

22   **SEC. 307. INTERNATIONAL FORESTRY COOPERATION.**

23       Section 602(b)(1) of the International Forestry Co-  
24   operation Act of 1990 (16 U.S.C. 4501(b)(1)) is amend-  
25   ed—

1                             (1) in subparagraph (G), by striking “and” at  
2                             the end;

3                             (2) in subparagraph (H), by inserting “and” at  
4                             the end; and

5                             (3) by adding at the end the following new sub-  
6                             paragraph:

7                                 “(I) carbon sequestration (as de-  
8                                 fined in section 3 of the Trillion Trees  
9                                 and Natural Carbon Storage Act) ac-  
10                                 tivities, including forest landscape res-  
11                                 toration (as defined in that section)  
12                                 programs, conducted in an ecologically  
13                                 appropriate manner;”.

14 **SEC. 308. MODIFICATIONS TO AUTHORITIES RELATING TO**  
15                             **TROPICAL FORESTS.**

16                             Section 118 of the Foreign Assistance Act of 1961  
17                             (22 U.S.C. 2151p–1) is amended—

18                             (1) in subsection (a)(2), by inserting “, and an  
19                                 increase in global carbon sequestration” before the  
20                                 period at the end;

21                             (2) in subsection (c)—

22                                 (A) in paragraph (1), by inserting “, res-  
23                                 toration,” after “conservation”;

(B) in paragraph (2)(A), by inserting “and impact on global carbon emissions” after “irreversible losses”;

10 (D) in paragraph (8), by inserting “in-  
11 crease carbon sequestration (as defined in sec-  
12 tion 3 of the Trillion Trees and Natural Carbon  
13 Storage Act) and,” after “other activities to”;  
14 and

○